

General

Title

Blood components: percentage of patients with hemoglobin greater than 7 gm/dL prior to transfusion of packed red blood cells (PRBC).

Source(s)

Quality indicators in critically ill patients. Madrid (Spain): Spanish Society of Intensive and Critical Care and Units Coronary (SEMICYUC); 2011. 185 p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of patients with hemoglobin greater than 7 gm/dL prior to transfusion of packed red blood cells (PRBC).

Rationale

The aim of intensive care medicine is to provide critical patients with the healthcare that they need, ensuring the quality and safety of care. Intensive care medicine is one of the principal components of modern healthcare systems. There is an increasing demand for this resource, which involves high costs.

The quality of care has gradually come to be the central focus of healthcare, and in recent years patient safety has come to represent one of the key aspects of quality. In the case of intensive care medicine, this interest in quality is even more evident, not only because of its social and economic impact, but also because some of the dimensions involved in the quality of care of critical patients take on greater importance: critical patients are more vulnerable, access to critical care is more limited so efforts to

distribute resources equitably are more important, scant scientific evidence is available, and the efficiency is limited.

Transfusion with a hemoglobin (Hb) threshold greater than 9 gm/dL has not been proven efficacious in reducing morbidity and mortality. Restrictive transfusion policies (Hb less than 7 gm/dL) reduce morbidity and mortality at 30 and 60 days in young patients (less than 55 years) of moderate severity (Acute physiology and chronic health evaluation [APACHE] less than 20).

Evidence for Rationale

Blood Observational Study Investigators of ANZICS-Clinical Trials Group, Westbrook A, Pettila V, Nichol A, Bailey MJ, Syres G, Murray L, Bellomo R, Wood E, Phillips LE, Street A, French C, Orford N, Santamaria J, Cooper DJ. Transfusion practice and guidelines in Australian and New Zealand intensive care units. *Intensive Care Med.* 2010 Jul;36(7):1138-46. [PubMed](#)

Hajjar LA, Vincent JL, Galas FR, Nakamura RE, Silva CM, Santos MH, Fukushima J, Kalil Filho R, Sierra DB, Lopes NH, Mauad T, Roquim AC, Sundin MR, Leao WC, Almeida JP, Pomerantzeff PM, Dallan LO, Jatene FB, Stolf NA, Auler JO Jr. Transfusion requirements after cardiac surgery: the TRACS randomized controlled trial. *JAMA.* 2010 Oct 13;304(14):1559-67. [PubMed](#)

Hebert PC, Wells G, Blajchman MA, Marshall J, Martin C, Pagliarello G, Tweeddale M, Schweitzer I, Yetisir E. A multicenter, randomized, controlled clinical trial of transfusion requirements in critical care. Transfusion Requirements in Critical Care Investigators, Canadian Critical Care Trials Group. *N Engl J Med.* 1999 Feb 11;340(6):409-17. [PubMed](#)

Lacroix J, Hebert PC, Hutchison JS, Hume HA, Tucci M, Ducruet T, Gauvin F, Collet JP, Toledano BJ, Robillard P, Joffe A, Biarent D, Meert K, Peters MJ, TRIPICU Investigators, Canadian Critical Care Trials Group, Pediatric Acute Lung Injury and Sepsis Investigators Network. Transfusion strategies for patients in pediatric intensive care units. *N Engl J Med.* 2007 Apr 19;356(16):1609-19. [PubMed](#)

Leal Noval SR, Muñoz GÃ³mez M, Campanario GarcÃa A. TrasfusiÃ³n en el paciente crÃtico. *Med Intensiva.* 2004;28:464-9.

Marik PE, Corwin HL. Efficacy of red blood cell transfusion in the critically ill: a systematic review of the literature. *Crit Care Med.* 2008 Sep;36(9):2667-74. [84 references] [PubMed](#)

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Primary Health Components

Blood components; hemoglobin; transfusion of packed red blood cells (PRBC)

Denominator Description

Number of patients transfused (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Number of patients with hemoglobin greater than 7 gm/dL prior to transfusion of packed red blood cells (PRBC) (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

Unspecified

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Hospital Inpatient

Intensive Care Units

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age greater than or equal to 18 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Data Collection for the Measure

Case Finding Period

Unspecified

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Institutionalization

Therapeutic Intervention

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

Number of patients transfused

Population: All patients transfused in intensive care unit (ICU) during the period reviewed.

Exclusions

Massive bleeding; acute coronary syndrome; severe sepsis grave/septic shock in the resuscitation phase; severe hypoxemia

Brain death or imminent brain death

Pregnancy

In children less than 16 years: hemodynamic instability, acute bleeding, or cardiovascular disease

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Number of patients with hemoglobin greater than 7 gm/dL prior to transfusion of packed red blood cells (PRBC)

Note: The maximum period between hemoglobin determination prior to transfusion and transfusion of the first PRBC unit is 24 hours.

Exclusions

Unspecified

Numerator Search Strategy

Institutionalization

Data Source

Electronic health/medical record

Paper medical record

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a lower score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Prescriptive Standard

Standard: 3%

Evidence for Prescriptive Standard

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Identifying Information

Original Title

Inappropriate transfusion of packed red blood cells (PRBC).

Measure Collection Name

Quality Indicators in Critically Ill Patients

Measure Set Name

Blood Components

Submitter

Spanish Society of Intensive and Critical Care and Units Coronary - Clinical Specialty Collaboration

Developer

Spanish Society of Intensive and Critical Care and Units Coronary - Clinical Specialty Collaboration

Funding Source(s)

Boehringer Laboratories

Composition of the Group that Developed the Measure

Work Group for Blood Products

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Financial Disclosures/Other Potential Conflicts of Interest

Unspecified

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2011 Mar

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Measure Status

This is the current release of the measure.

The measure developer reaffirmed the currency of this measure in May 2016.

Measure Availability

Source available in [English](#) and [Spanish](#) from the Spanish Society of Intensive and Critical Care and Units Coronary (SEMICYUC) Web site.

For more information, contact SEMICYUC at Paseo de la Reina Cristina, 36, 4º D, Madrid, Spain; Phone: +34-91-502-12-13; Fax: +34-91-502-12-14; Web site: www.semicyuc.org ; E-mail: secretaria@semicyuc.org.

NQMC Status

This NQMC summary was completed by ECRI Institute on January 8, 2014. The information was verified by the measure developer on February 26, 2014.

The information was reaffirmed by the measure developer on May 10, 2016.

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Production

Source(s)

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